AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 26. (canceled).

27. (previously presented): A sensor comprising a first organic substrate having a microfluidic channel and an electronic sensing device located therein, and a second substrate bonded to the first substrate so as to close the microfluidic channel, wherein a conducting part of the electronic sensing device is exposed at the surface of the microfluidic channel, and said conducting part comprises poly(3,4-ethylenedioxythiophene) doped with poly(styrene sulphonic acid).

28. (original): A sensor according to claim 27 for sensing the presence of glucose in the microfluidic channel.

29. (canceled).

30. (currently amended): A method comprising:

forming a field-effect transistor including source and drain electrodes, an active semiconducting layer, a gate electric layer and a gate electrode, wherein the forming includes

defining in a single operation a microfluidic channel, and a pair of electrodes of [[an]]said field-effect transistor ~~electronic sensing device~~, receiving a flow of liquid or gas in at least a portion of said microfluidic channel, and

sensing a property of said liquid or gas.

31. (previously presented): A method as claimed in claim 30 wherein the said operation is embossing.

32. (previously presented): A method according to claim 30 wherein the microfluidic channel is located in an organic substrate.

33. (previously presented): A method according to claim 30 wherein current flowing between the electrodes is sensitive to environmental conditions within the channel.

34. (previously presented): A method according to claim 33 wherein the environmental conditions are temperature.

35. (previously presented): A method according to claim 33 wherein the environmental conditions are the presence of a species to be sensed.

36. (currently amended): A method as claimed in claim 30, wherein said pair of electrodes ~~form~~ are said source and drain electrodes of said[[a]] field-effect transistor.

37. (previously presented): A method as claimed in claim 36 wherein said field-effect transistor is a vertical-channel field-effect transistor.

38. - 41. (canceled).

42. (currently amended): A method comprising:

forming a field-effect transistor including source and drain electrodes, an active semiconducting layer, dielectric layer and a gate electrode, wherein the forming includes forming a body comprising an electrically conductive layer, and[[;]]

embossing the body to define in a single operation a microfluidic channel and a pair of electrodes of said field-effect transistor, the pair of electrodes being exposed at the surface of the channel;

receiving a flow of a liquid or gas in at least a portion of said channel; and

sensing a property of said liquid or gas.

43. (previously presented): A method as claimed in claim 42 wherein defining said pair of electrodes comprises microcutting the electrically conductive layer.

44. (currently amended): A method as claimed in claim 42 further comprising depositing over the body a layer of a semiconductive material to form said active semiconducting layer.

45. (currently amended) A method as claimed in claim 44 further comprising depositing over the layer of semiconductive material a layer of an insulating material to form said gate dielectric layer.

46. (currently amended): A method as claimed in claim 45 further comprising depositing over the layer of insulating material a layer of a conductive material to form said gate electrode.

47. (canceled).

48. (new): A method as claimed in claim 30 wherein the channel defined by the single operation is a first microfluidic channel and wherein the method further comprise;

defining a second microfluidic channel within the first microfluidic channel;

receiving a flow of liquid or gas in said second microfluidic channel, and

sensing a property of said liquid or gas.

49. (new): A method as claimed in claim 42 wherein the channel defined by embossing is a first microfluidic channel and wherein the method further comprises;

defining a second microfluidic channel within the first microfluidic channel;

receiving a flow of liquid or gas in said second microfluidic channel, and

sensing a property of said liquid or gas.